



# Payments for Environmental Services From Agricultural Landscapes

## THE ROLE OF PAYMENTS FOR ENVIRONMENTAL SERVICES (PES)

## AS REWARD MECHANISMS FOR SUSTAINABLE LAND MANAGEMENT IN EAST AFRICA

### WORKSHOP REPORT

Capacity-building workshop FAO- CARE Tanzania  
Dar es Salaam 4-6 February 2008

#### Organization

PESAL project team, Agriculture and Development Economics Division, UN Food and Agriculture Organization-FAO, funded by the FAO Netherlands Partnership Programme

FAO Land and Water division and the upcoming "Transboundary Ecosystem Management Programme for the Kagera River Basin"

With local support from CARE Tanzania and FAO Regional Office Tanzania



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## Final Report

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## 1. Introduction: rationale and goals, institutions represented, organization and structure,

**The workshop was organized by** the Agricultural Development Economics Division (ESA) of FAO under its PESAL project- Payments for Ecosystem Services schemes from Agricultural Landscapes- a project aimed to build capacity for PES development for the cases in which this instrument can support the adoption of sustainable land management and contribute to rural development.

**In close collaboration with** the Land and Water Division (NRL) and their work on the Transboundary Ecosystem Management Project in the Kagera River Basin, Ecoagriculture Partners and the development of their “PES Market Assessment” toolkit and CARE Tanzania and their experience in engaging buyers of environmental services, particularly in the private sector- “making the business case”, through their ongoing work under the CARE-WWF programme on Equitable Payments for Watershed Services, active in Tanzania and Kenya, Latin America and Southeast Asia.

The East and Southern Africa Katoomba Group and the World Agroforestry Centre also provided inputs in designing the workshop’s programme, electing participants and contributing with their knowledge and experience on PES across all sessions and discussions of the workshop.

The FAO Tanzanian regional office and the Department of Environment of the Tanzania Vice President’s office also provided support and endorsement for the initiative.

The meeting aimed to facilitate discussions on the potential for the application of PES as incentives for sustainable land management, especially among poorer resource managers, to provide tools for PES development, raise awareness for the barriers and encourage regional partnerships among policymakers and natural resource managers for future collaboration (Box 1).

### Box 1: Workshop objectives

A. To build capacity for using PES as an incentive for Sustainable Land Management:

- Provide an introduction to what PES are and how they could work- aimed at land and water agricultural managers/planners/decision makers that aren’t yet familiar with the mechanism
- Offer an overview of on-going worldwide PES scenario activities in the world, focusing on East Africa and highlighting obstacles faced and successful approaches
- Generate discussion on the legislation and institutional framework required for PES development in East Africa
- Highlight the necessary conditions for facilitating to facilitate the participation of poorer rural groups in PES schemes

B. To create national and regional partnerships among policy makers and natural resource managers to facilitate the development of PES related schemes and required institutional mechanisms

C. To get feedback on the need for tools/guidelines/analyses from the field to support ongoing PES development (link with the Kagera community catchments river basin and related project activities)

**The meeting took place in** Dar es Salaam (at the White Sands hotel), from Monday 4<sup>th</sup> to Wednesday the 6<sup>th</sup> of February 2008 and was attended by 46 participants, from local to international research institutions, government agriculture and environmental technical staff and policy makers, private sector buyers of environmental services and NGOs engaged in conservation and agricultural development(Box 2). The full list of participants is reported in Annex 1.

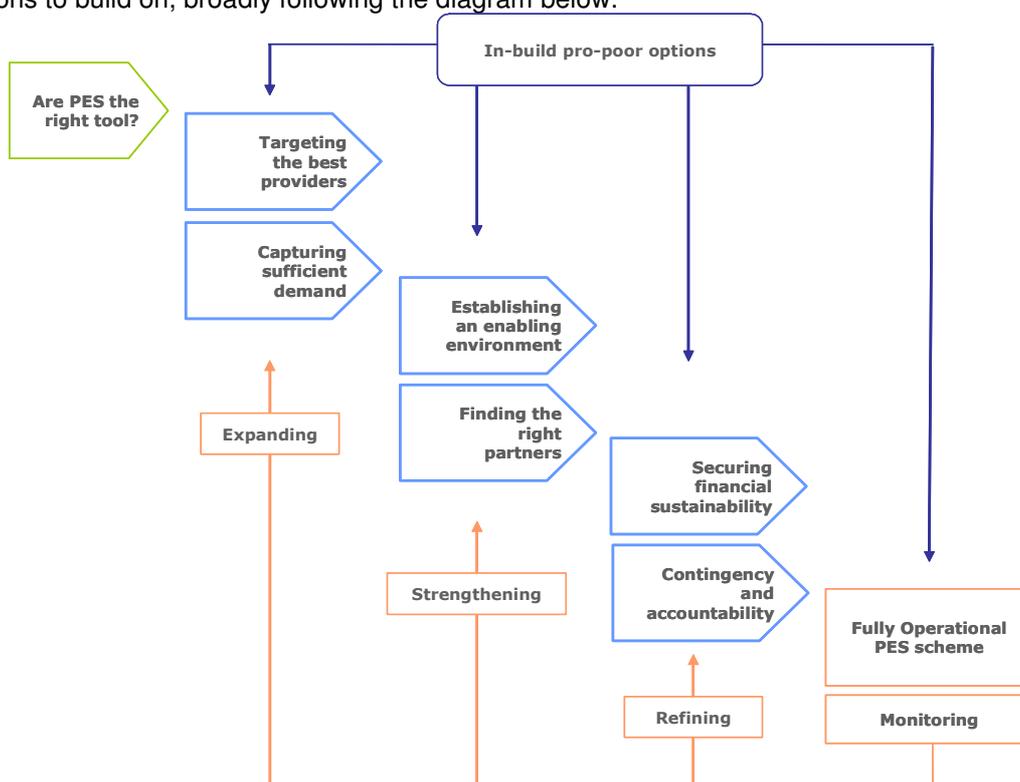
### Box 2. Institutions present

Tanzania	Kenya
African Wildlife Foundation- Arusha	East African Community, Lake Vitoria Comission
Agriculture Research Institute (ARI) Maruku, Bukoba	FAO Kenya regional office

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<p>CARE Tanzania Department of Commercial Crops Fruits and Forestry, Zanzibar Environmental Management Council (NEMC) Farmer Field Schools Foundation (FFS) Food and Agriculture Organization of the UN (FAO), Tanzania regional office Ministry of Natural Resources and Tourism of Tanzania, Forestry &amp; Beekeeping Division (FBD) Tanzania Forest Conservation Group (TFCG) Tanzanian Ministry of Agriculture and Forestry Tanzanian Ministry of Water Tanzanian Vice President Office, Division of Environment University of Dar es Salaam, Institute of Resource Assessment (IRA) Uyole Institute of Agriculture, Mbeya Wildlife Conservation Society of Tanzania World Agroforestry Center (ICRAF)</p> <p style="text-align: center;"><b>Uganda</b></p> <p>East and Southern Africa Katoomba Group ECOTRUST - The Plan Vivo implementer in Uganda Nature Harness Initiative (NHI) Socio-Economic Development &amp; Benefit Sharing project, Nile Basin Initiative Uganda Carbon Bureau Uganda Wildlife Education Centre Ugandan Ministry of Water and Environment</p>	<p>Kijabe Environment Volunteers (KENVO) Nairobi City Water and Sewerage Company Nature Kenya International Livestock Research Institute (ILRI) United National Development Program (UNDP), Drylands Development Centre World Agroforestry Center (ICRAF) WWF Kenya</p> <p style="text-align: center;"><b>Burundi</b></p> <p>Burundian Ministry of Environment, Planning and Public Works</p>
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The workshop programme (Annex 2) was built to provide an initial insight into the different stages of PES design and implementation, focusing on how to access supply and demand, and on which institutions to build on, broadly following the diagram below.



The workshop began with an introduction to the rationale for PES as mechanisms to encourage sustainable land management and an overview of the initiatives already ongoing in the region.

The second day focused on the combination of a simulated assessment of the supply of environmental services from three different landscapes, with their users and potential buyers. Ecoagriculture partners introduced methodology to assess the opportunities for agricultural landscapes to provide environmental services and CARE Tanzania, with WWF Kenya, shared with the participants the main steps in building a Business Case for Payments for Watershed Services.

Day three aimed at taking stock of the institutional conditions and needs to establish an enabling environment for PES development in the participants' countries. From looking into which institutions are or could support PES development and what would need to be created, to thinking about the legal and regulatory environment, sectoral awareness and research support options. These need to be developed while keeping in mind how to support pro-poor goals, ensure transparency and accountability, longevity of the scheme and efficiency of investment.

The workshop was successful in facilitating the discussion on the potential for PES to be an incentive for sustainable land management in East Africa, in building capacity among participants with different technical background, and in encouraging national and regional partnerships among policy makers and natural resource managers for future collaboration.

## **2. PES from sustainable land management- rationale and overview of regional initiatives (morning session, day 1)**

This session aimed to provide an introduction into what PES are and how they could be used in the agricultural sector as an incentive for sustainable land management, in Sub-Saharan Africa and, specifically in the Kagera River Basin (which includes Tanzania, Uganda, Rwanda and Burundi).

### 2.1 Paying farmers for Environmental Services as one way to provide incentives for Sustainable Land Management (SLM)

*Leslie Lipper, FAO Agriculture Development Economics*

Farmers are the largest group of natural resource managers on earth and can generate both positive and negative impacts on environment. Current incentives promote agricultural production while other non-productive benefits from agroecosystems have generally been overlooked in land management decisions.

Demand for environmental benefits from agricultural lands is increasing. Ongoing PES schemes help farmers improve their production practices (to conservation agriculture, agro-forestry or silvo-pastoral), change their land use (reforestation, rehabilitation or conservation) or refrain from expanding their activity into new lands (reducing deforestation and degradation).

The beneficiaries of these changes range from water users (hydroelectricity producers or municipal water facilities- mainly in Latin America), polluters in need of carbon credits and individuals supporting environmentally certified production processes (such as shade grown coffee).

The participation of farmers in such schemes depends on the investment required to adopt the PES measures and forego production income, compares to the improvements in productivity or compensation offered by the scheme. In some cases, PES schemes can also contribute to poverty alleviation, but this depends on the location of the poor, their rights over the land and the selected changes in farming systems.

Whether a PES project is able to survive financially in the long run and deliver the environmental benefits expected is a matter of design- selecting the appropriate land and activities, engaging the beneficiaries and securing long-term funding commitments and getting buy in from a range of institutions within different sectors and at different levels. This is a long process that requires realistic goals and extensive negotiations. Few PES schemes have so far managed to overcome these hurdles but interest in this tool is still growing as promising advances have been made worldwide.

## 2.2 Sustainable Land Management in Sub-Saharan Africa and the Terrafrica initiative

*Sally Bunning, FAO Land and Water division*

### **The Transboundary Agro-ecosystem Management Programme for the Kagera River Basin**

(**Kagera TAMP**) project (FAO-GEF-UNEP) is looking to reduce severe and increasing degradation of resources in the basin (reduced water supply, pollution; soil nutrient mining, deforestation, overgrazing), through investment in technical and policy improvements for the adoption of SLM (Box 3). In this context, PES is one of the measures considered.

The project is under the TerrAfrica multipartner platform -seeking to provide an enabling framework to mainstreaming and financing sustainable land management approaches in SSA and the GEF Strategic Investment Program for SLM in SSA (SIP), responsible for a multi-agency portfolio of sequenced investment packages that can catalyze country-specific SLM programs over the long term, maximize impact of the investment, mainstream SLM into policy, and sequencing of investments. This presents a very large base for funding opportunities, and each country is at this stage developing its own investment programme and identifying country partners to get in touch with each country's focal point.

#### **Box 3: Kagera TAMP Project Components:**

- **Transboundary coordination, information sharing and M&E mechanisms** for sustainable, productive agro-ecosystems & the restoration of degraded lands (basin-wide collaboration LVEMP, NBI-NELSAP; KM-GIS/RS, networks)
- **Enabling policy, planning and legislative conditions** to support and facilitate the sustainable management of agro-ecosystems and the restoration of degraded land (community bye-laws, conflict resolution, incentives for SLM).
- **Enhancing capacity and knowledge** at all levels for the promotion of – and technical support for – sustainable management of land and agro-ecosystems in the basin (methods & approaches -demos, FFS study plots, PLAR+ monitoring, impact).
- **Implementing improved land and agro-ecosystem management practices benefiting land users** for the range of agro-ecosystems in the basin (integrated agro-pastoral & cropping systems → enhanced productivity, PES and market opportunities).

#### **A: Baseline- current situation**

Land use Intensification, unsustainable practices (over grazing, deforestation, bush burning, specialisation: crop/ livestock, loss of fallow...)

Loss of habitat and species; degraded resources/threats;  
Loss of ecosystem function (low resilience; productivity; high risk/ vulnerability (drought, pests...))

Uncoordinated sectoral policy / services, poor community organisation, lack of incentives for SLM

→

#### **B: With project**

Diverse viable farm livelihood systems; Sustainable, productive practices; multiple goods

Healthy soils (fertile, water retention, soil life, C storage)  
Soil cover → SWC  
Agro-biodiversity → ecosystem functions –many products; options/reduced risks

Enabling policy; Organised/informed land users /CSOs;  
Community/district decisions/planning (land tenure; markets/incentives)

#### **Key Indicators:**

- Sustainable land & agro-ecosystem management practices implemented on 100,000 ha. by PY5 (
- 10% increase in NRM-based income for 120,000 farmers/herders - crop and livestock productivity, energy and water supply; diversified products);
- 20% increase in carbon stores on 30,500 ha of land (on farmer study plots and sample sites in target arable and pasture lands by PY5 – on average, as C storage capacity varies with soil and land use type);
- 10% reduction in sediment load in 4 representative micro-catchments (30% increase in vegetation cover (above + below ground biomass) on pilot 23,000 ha. arable and 7,500 ha. pasture lands by PY5).
- 1,035,200 people benefiting from training in SLM (all levels, especially farmer and district);
- Enabling environment for regional cooperation in SLM established (mechanisms for PES, harmonised policies, intersectoral).

see also: [http://www.fao.org/landandwater/fieldpro/kagera/methodologies\\_results.htm](http://www.fao.org/landandwater/fieldpro/kagera/methodologies_results.htm)

### 2.3 Agroecosystems of Kagera River Basin in Tanzania: Niches for PES to Enhance Sustainable Land Management

*Freddy Baijukia, Tanzania Agricultural Research Institute*

Various land use problems have led to land degradation in the Kagera basin while improved management schemes have yielded little results due to the lack of incentives. Poverty rates in the region are high and only incentive-based and pro-poor approaches will be attractive to farmers. PES schemes could therefore be an interesting option but there are important institutional constraints to overcome (Box 4).

#### **Box 4: Niches for PES to Enhance Sustainable Land Management in the Kagera River Basin**

<b>Causes of land degradation</b>	<b>Niches for PES development</b>	<b>Institutional constraints to PES in the region</b>
<ul style="list-style-type: none"> <li>• Overstocking and overgrazing</li> <li>• Continuous cropping with no input leading to land productivity decline</li> <li>• Encroachment of subsistence farming into fragile areas</li> <li>• Overexploitation of forests and woodland</li> <li>• Cultivation on steep slopes accelerates</li> <li>• Burning of OM- increasing carbon emission</li> </ul>	<ul style="list-style-type: none"> <li>• Degraded watershed and pastures in drier lowlands and floodplain</li> <li>• Protected catchments with tourism potential /biodiversity richness</li> <li>• Agro-ecological production areas preserving high ES (organic farming, shade coffee, etc)</li> <li>• Degraded treeless landscape (refugee affected)</li> </ul>	<ul style="list-style-type: none"> <li>• The population perceive ES to be free of charge</li> <li>• PES concept- not known to conservation stakeholders</li> <li>• No institution(s) currently active in PES</li> <li>• ES not clearly assessed and quantified</li> <li>• Majority of ES providers are also receivers<sup>1</sup></li> </ul>

<sup>1</sup> possibility of creating a self-enforcing scheme where after initial support for the adoption of the new techniques, the increase in productivity generates a continuous incentive

### 2.4 Overview of PES Initiatives in East and Southern Africa

*Alice Ruhweza, The Katoomba Group*

While there is growing interest in PES in Eastern and Southern Africa (Box 5), there are several obstacles to their development in the region: providers/sellers are not aware of monetary value of their service; beneficiaries/buyers are not aware of the need to compensate the providers; while there is a fairly conducive statutory policy environment for PES due to decentralization and reform of environment, water, forestry & land policies, there isn't specific provision for PES; there are some support institutions in place like NGOs with PES experience and networks<sup>1</sup> to share knowledge and provide support using local expertise, but overall there is still limited institutional capacity in project design & implementation (Box 6).

#### **Box 5: Overview of PES initiatives in Eastern and Southern Africa**

<b>Carbon</b>	<b>Biodiversity</b>	<b>Water</b>
<ul style="list-style-type: none"> <li>• Afforestation in private land /community land/ forest reserve land ;</li> <li>• Reforestation of degraded parts of existing forest reserves</li> <li>• Clean Energy: displacing diesel with hydropower; Mini-hydro projects</li> <li>• Co-generation:-turning waste into energy (sugar plantations)</li> <li>• Waste composting -methane</li> </ul>	<ul style="list-style-type: none"> <li>• Purchase of high value habitat – Chimpanzee Sanctuary</li> <li>• Payments for access to resources – fisheries user levy; user permits, access to protected areas (gate fees); bioprospecting</li> <li>• Payment for biodiversity conserving management– Watamu Turtle watch, Kitengela</li> <li>• Payments for scenic beauty – ecotourism-tourists pay for</li> </ul>	<ul style="list-style-type: none"> <li>• Payments for watershed services – water quantity and water quality- Typically pay or compensate upstream land owners to adopt good land management practices to mitigate siltation and ensure water flow - Nairobi Sasumwa, TZ-Equitable PWS, etc</li> <li>• South Africa – working for water, working for wetlands</li> </ul>

<sup>1</sup> E.g. the East and South Africa Regional Katoomba Group, [www.katoombagroup.org/~katoomba/regions/africa/index.php](http://www.katoombagroup.org/~katoomba/regions/africa/index.php)

capture	access, accommodation, crafts, etc	• Uganda prospects - Kasese, Kabale
• Bioenergy-Biofuels	• Trust Fund – Conservation of mountain Gorilla	
	• Payments for biodiversity conserving business/access to markets – (ecolabelling)	
	• Biodiversity offsets – compensation for unavoidable damage to biodiversity (“no net loss”) – BBOP)	

#### **Box 6. Current obstacles to PES development in East Africa**

- Standards and guidelines for design and operation eg. how to collect funds from multiple users and channel to providers.
- Market Information- linking sellers& buyers
- Assessing and capturing ES value – Price does not always capture value of other services
- Defining rights – who will receive payments?
- Ensuing effectiveness –in enhancing environmental benefits
- Securing efficiency –compared to other NR management (and/or poverty alleviation) approaches
- In-building equity –in the distribution of benefits
- Little or no involvement of private sector and yet they are the largest users
- Limited institutional capacity

#### [2.5 Equitable Payments for Watershed Services \(EPWS\) in Tanzania: A CARE-WWF Programme-overview & lessons sharing](#)

*Lopa Dosteus, CARE Tanzania*

Equitable Payments for Watershed Services programme, a joint CARE and WWF programme active in Kenya and Tanzania (also with sites in Latin America and Southeast Asia) aims to create pro-poor and business-attractive PES schemes.

In the Tanzanian site, the work focuses on the catchment of the Ruvu river- the source of 90% of the water used by domestic and industrial users in Dar es Salaam, and where rapid expansion of farming to the steep slopes of the catchment has increased the silt load in the river and raised water treatment costs, especially in the last 5 years. Following feasibility studies (livelihoods and hydrology baseline assessments, policy and legal framework review and cost benefit analysis to show buyers how much more expensive it would be to arrange alternative water supply), the project identified justifiable “business criteria” and secured support from one of the main water users (Coca Cola), served by the city’s water utility DAWASCO.

The latter however, has not yet agreed to contribute to this initiative as they are already paying extraction fees to the basin water office. A change in policy would be required to earmark more of these funds for investment upstream. CARE hopes their ongoing investment watershed management can inform policy and lead to an increase in investment.

With the support from Coca Cola, work on the ground is starting in March 2008 in the Kibungo sub-catchment, where farmers are adopting terracing and agroforestry, building previous UNDP work. Next step is to replicate the scheme in East Usambara (Sigi river supplying Tanga city)

### 3. Ongoing PES projects in East and Southern Africa (afternoon session, day 1)

The session offered an overview of on-going PES activities in the world for the main markets (carbon, water and biodiversity), focusing on East Africa and highlighting obstacles faced and successful approaches.

#### 3.1 Opening Remarks: Watershed protection and river basin integrated management: an opportunity for implementing PES projects in Eastern Africa

*Mr. Evarist Nashanda, Forestry and Beekeeping Division, Tanzanian Ministry of Natural Resources*

The presentation highlighted the role of catchment forests in water provision, carbon storage and biodiversity conservation and the need to take these ecosystem services into account in policy decisions and budget allocations. Local communities in charge of managing and protecting these forests need to receive compensation for their efforts (Box 7). The Joint Forest Management initiative, ongoing since 1998, has proven to be successful in allowing limited and sustainable management and use of these forests, for the benefit of their host communities. However, funding to continue implementing the programme is not secure in the long run. A possible source of continuous funding would be from the water and energy sectors that benefit from the watershed functions of these forests.

#### **Box 7: Watershed Protection and River Basin Integrated Management - an opportunity for Implementing PES**

It is therefore recommended that the Government of Tanzania do the following

- Inclusion, or redirection, of a “forest conservation” component in the water user fees.
- Inclusion, or redirection, of a “forest conservation” premium in the price of electricity.
- Diversion of part of tourist revenues obtained from climbers of Forest Mountains to conservation.
- Engage in carbon trading especially through REDD ( Reduced Emission by avoiding Deforestation and Degradation”

*“Local people wondering what is really happening in light of the degradation of catchment forests”*



#### 3.2 Pro-Poor Rewards for Environmental Services in Africa (PRESA)

*Thomas Yatich, World Agroforestry Center- ICRAF (Kenya)*

Building on the work from RUPES (Rewarding the upland poor for environmental services), PRESA is supporting the development of workable environmental service agreements between upland smallholders and the beneficiaries of their land management decisions, in seven areas in Kenya, Tanzania, Uganda and Guinea (Box 8).

The project aims at catalyzing policy support and private-sector participation in environmental service agreements and disseminate the use of assessment tools, negotiation methodologies, prototype mechanisms and monitoring tools. Site level activities include:

- Develop and adapt assessment methods and approaches from RUPES
- Appraise causal links between PES, incentives, resource use, institutions and environmental services.
- Develop a technology advisory tool for targeting appropriate conservation activities in the target landscapes.
- Develop and test prototype reward mechanisms and contribute to the development of institutional arrangements.
- Establish, implement and facilitate operational reward mechanisms (with partners).
- Monitor, evaluate and assess impacts.

#### **Box 8: PRESA activities in Africa**

PRESA Core Sites	Environmental Services in focus	Possible reward mechanism	Collaborators
Mt. Kenya East Catchment (Kenya)	Regular supply of clean water for urban, domestic, irrigation, hydropower production and	Conditional rewards for adoption of better-farming practices leading to reduced soil erosion, sediments in	Line ministries, KWS, Forest Department, MKEPP-

	downstream uses	downstream dams and improved production	NRM, UNOPS, GEF, Katoomba Group, CIFOR, USAID, Local government
Conservation of Fouta Djallon highlands (Guinea)	Primate conservation, tree diversity conservation, and watershed protection	Support for tree and forest-based enterprises in exchange for conservation of tree resources in protected areas and nearby landscapes – possible REDD prototype	
Uluguru Mountains (Tanzania)	Bundling forest environmental services	Conditional payments for watershed services	CARE-Tanzania, TFCG, IIED, WWF and ICRAF
		Restricted access to forest reserve resources in exchange for the protection, restoration and "co-management" of biodiversity	
<b>PRESA Associate Sites</b>	<b>Environmental Services in focus</b>	<b>Possible reward mechanism</b>	<b>Collaborators</b>
Lake Victoria Basin	Land restoration for enhancing soil fertility, restoring watershed function biodiversity and carbon sequestration	Carbon offsets through either voluntary or CDM market	KARI
Aberdares NCWSC (Kenya)	Regular supply of clean water downstream and urban squatter settlements & biodiversity conservation	Financial payments, input support, and community forest groups in exchange for restoration of gazetted forests	NCWSC, JKUAT
Allanblackia project sites in Tanzania	Landscape level tree diversity in multi-functional landscapes adjacent to protected areas	Financial payments for planting and maintaining diverse tree stands on farm	ICRAF, Unilever, IUCN, NARIs, SNV, TFCG
Kasyoha-Kitomi forest landscape (Uganda)	Smallholder carbon sequestration	Financial payments, input support and extension services in exchange for carbon sequestration.	Ecotrust, Nature Uganda
Western Usambara (Tanzania)	Biodiversity conservation; watershed protection (large drylands in valleys supported by Usambara Mountains)	Support for community and district-level negotiations over NRM, processes for small-scale irrigation; extension support Indigenous tree species; co-Management of protected areas; conditional water, biodiversity, carbon payments.	ASARECA, AHI, Ministries of NR and Tourism, agriculture, Water and TAFORI

### 3.3 The Opportunities and Challenges of Implementing PES in the Water Sector: A Kenyan Buyer's Perspective

*Philip Msafiri, Nairobi City Water and Sewerage Company-NCWSC*

The presentation started with a discussion of the main problems that the Nairobi city water company (NCWC) faces in treating water: given the high siltation rates in the rivers from where the water treatment costs are very high (Box 9).

#### **Box 9: Costs of water treatment for the Nairobi city water company (NCWC)**

- Secondary dams require de-silting after every rainy season; main dam impounds around 4 million m<sup>3</sup> though the capacity is 15.9 million m<sup>3</sup> due to siltation
- Desludging expenses are about Kshs. 9m (about 140,000 USD) annually in the Sasumua catchment. In addition, the loss of the dam's storage capacity due to sedimentation further worsens water quality leading to high treatment costs.
- Kshs.14m (about 200,000USD) per month in water chemical treatment alone.

Thus, the company is seeing PES as an opportunity to invest in improved land management, as a more sustainable and low costs approach to reducing their operation costs. They have created an

environmental department to take this idea forward. The idea is to pool contributions from other users as well (including larger farmers in Thika, Thika water company, KENGEN, Yatta furrow) to fund an integrated management plan for the watershed (providers include farmers, forestry department, Kenya Wildlife Service).

Main obstacles the NCWSC faces in PES development can be summarized as follows:

- the company is making regular contributions to environmental bodies, but it is unclear whether these funds are being invested in watershed management;
- there is no established policy framework for setting up institutions to oversee implementation of PES (environmental legislation only mentions voluntary schemes but insists on negotiated and mandatory compliance);
- there is little legal or legislative provision to enter into payment arrangements (insecurity of investment);
- there is poor understanding of PES at the governance level;
- within the water utility itself, the governing body does not include any representative from the watershed governing bodies.

### 3.4 Potentials for PES in the Carbon Markets in East Africa: Experiences in Carbon Offset Projects in Uganda

*Byamukama Biryahwaho, Nature Harness Initiatives-NAHI*

While there is enabling policy and institutional framework, the Carbon offset projects in Uganda are so far at early stages, with only a few that are already fully operational. Tree planting for sale in the voluntary carbon market through the Environmental Conservation Trust of Uganda (ECOTRUST), Plan Vivo and UWA-FACE Foundation projects<sup>2</sup>. the problem is that most projects face a long design process due to many obstacles to overcome and lack of start-up funds.

There is room for further development also in combination with Sustainable Land Management and poverty alleviation:

- Promotion of on-farm tree planting: soil and water conservation, fodder, protection of water catchments;
- Rehabilitation of formerly encroached areas;
- Promotion fruit trees growing for improved nutrition;
- Use of unproductive land for tree growing;
- Integration of tree planting with other enterprises (e.g. beekeeping, small livestock).

But there are many gaps that need to be addressed:

- Scanty information about land based carbon offsets – potential sellers now aware of opportunities and/or wary of risks (eg. fear of loss of rights over land);
- Limited technical skills among local promoters (eg. how to pay and how much? cash or accounts with village banks?) and associated high costs of hiring international experts (eg. verifiers and intermediaries to make the bridge into the international market- the current development of the DNAs should improve this but it's still early...);
- Limited market for land management based carbon offsets- energy projects favoured by investors;
- Scattered and uncoordinated projects – there is need for bundling of projects;
- Limited land holdings and land distribution.

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<sup>2</sup> FACE foundation project: <http://www.stichtingface.nl/disppage.php?op=30401&rp=L13IL21&lang=uk>  
Ecotrust/ Plan Vivo: <http://www.planvivo.org/ox.planvivo/scheme/ugandagovernance.aspx> and <http://www.ecotrust.or.ug/>

### 3.5 The Nairobi Framework and Potential Carbon Market for East Africa

*Todd Ngara, UNEP Risøe Center*

Several organisations (UNDP, UNEP, WB, AfDB and the UNFCCC) are working together to enable to enable developing countries to increase their CDM activities, under the Nairobi Framework Initiative.

Africa-specific problems in increasing participation in CDM:

- Limited access to finance by potential developers;
- Financial intermediaries' lack of knowledge on CDM;
- Lack of trained CDM local consultants;
- Unfavourable investment climate;
- Limited budgets for Designated National Authorities (DNA) operations;
- More potential in small-scale projects – difficult to attract financing – lack of entities capable of bunding projects.

Among other capacity building activities, NBI has:

- supported operationalization of DNA in a number of countries;
- funded preparation of pipeline of PINS/PDD' s prepared by national consultants;
- led targeted capacity building workshops for policy makers, national consultants, DNAs, potential developers, bankers and financial intermediaries and for specific sectors (e.g. fuel-switching workshops, etc).

The goals of this capacity building investment are:

- reducing the number of days DNA reviewing/approve a CDM project;
- increasing the number of local consultants capable of preparing good PIN/PDD;
- improving the understanding of local financial institutions of CDM, possible willingness to provide underlying project financing;
- supporting the Validation/Verification processes.

### 3.6 Reducing Emissions from Deforestation and Degradation (REDD): Policy Scenarios and Carbon Markets

*Jenny Farmer, Uganda Carbon Bureau*

Forest-related mitigation activities can considerably reduce emissions from sources and increase CO<sub>2</sub> removals by sinks at low costs, and can be designed to create synergies with adaptation and sustainable development .About 65% of the total mitigation potential (up to 100US\$/tCO<sub>2</sub>-eq) is located in the tropics and about 50% of the total could be achieved by reducing emissions from deforestation.

Reducing emissions from deforestation and land degradation (REDD) is only allowed under the voluntary market and only a few REDD projects in the world (eg, Noel Kempff Climate Action Project, Bolivia; Makira protected area, Madagascar), using their own methodologies.

Several approaches in the development of REDD methodologies. E.g:

- CATIE and Climate Focus are developing a nested approach to allow projects to develop while awaiting government guidelines;
- Greenpeace, released a proposal for a “Tropical Deforestation Emission Reduction Mechanism” independent from CDM, trading in “Tropical Deforestation Emission Reduction Units”;
- World Bank Carbon Finance Unit's Forest Carbon Partnership Facility is also developing a framework for piloting activities to reduce carbon dioxide emissions from deforestation and forest degradation);
- Ugandan Carbon Bureau currently developing a methodology for Ugandan REDD projects- great potential for Africa (also on the land degradation side, given the forest cover and rate of deforestation/degradation and conducive weather to regeneration).

### 3.7 Potential for Biodiversity Conservation in East Africa- (Nature Kenya's PES Activities)

*Enock W. Kanyanya, Nature Kenya, Nairobi*

The presentation focused on the Arabuko Sokoke Schools and Ecotourism Scheme (ASSETS):

- It contributes to the conservation of Arabuko sokoke Forest and Mida Creek, both important biodiversity areas with high potential for ecotourism;
- All beneficiaries are expected to refrain from taking part in any illegal extractions or harvesting of forest products and are encourage to engage in habitat restoration (all beneficiaries are provided with seedlings to establish their own woodlots);
- Financial assistance with school fees reduces pressure on parents to exploit the natural resources;
- In long term, promoting education increases chances of employment which reduces poverty and consumption of natural resources within the forest and the creek;
- So far, about 41,000USD (Kshs 2.8 million) has been distributed to children attending over 37 secondary schools.

### 3.8 The Biorights Approach: Resource Conservation and Sustainable Management

*James Musunguzi, Uganda Wildlife Education Center*

In areas of high biodiversity value and high poverty rates, the biorights approach is being implemented as an incentive for the protection, regeneration and sustainable use of natural resources. The incentive lies in granting micro-credits for agriculture improvements whose repayment rules depend on compliance with environmental commitments. These can include participation in the enforcement of conservation measures such as ban on hunting or assisting the regeneration of important habitats such as mangrove strips and peat swamp forests.

This approach works best where the potential of the current activity to generate substantial income is low as the communities require a smaller incentive to change into less destructive and more promising income generating activities. It is also important that the scheme benefits all community members equally to secure commitment from the entire community and avoid internal tensions.

So far, funding for these schemes comes from NGOs and donors interested in biodiversity conservation and/or poverty alleviation. Examples of application of this approach are in Box 10. Future opportunities include tapping into sales of carbon credits or certified products (Forest Stewardship Council- FSC or Marine Stewardship Council- MSC) and granting other benefits such as tax exemptions.

#### **Box 10: Application of the BioRights approach**

Inner Niger Delta, Mali – financial support to local women groups to develop alternative sources of income (poultry breeding, wool weaning, rice trade, fish smoking) in exchange for quitting water bird trade and report offenders.

Sumatra and Kalimantan, Indonesia - encouraging local communities to replant mangrove strips (for biodiversity, CC mitigation and storm protection functions) and peat swamp forests in exchange for micro-credits- the loan may become a grant if 70% of the trees survive the first 3 years.

See also <http://www.bio-rights.org/cases.html>, [www.Bio-rights.org](http://www.Bio-rights.org) and [www.wetlands.org](http://www.wetlands.org)

## **4. Supply assessment and engaging demand (day 2)**

The goal of this working group session was to allow the participants to have an overview of the possibilities and obstacles in developing a PES scheme, from considering the environmental services being provided and potential trade-offs of increasing their provision in relation to other land use options and potential support for this investment coming from beneficiaries of this improvement.

The participants focused on the methodological aspects of PES implementation: the use of a “market assessment” procedure for assessing PES feasibility was demonstrated, together with a tool to make a case for PES to present to buyers (“the business case”). In working groups, the participants carried out

a supply and demand assessment of ES (Box 11) and tested the methodology presented by applying it to different landscapes selected as case studies (two hypothetical scenarios, one in an upland area and another in a lakeside situation; the case in the Kagera river basin illustrated a riverside case).

**Box 11: Guidelines for the work group discussion (day 2)**

**A. Supply assessment**

- Which ecosystem services are being provided in the area?
- Which services are threatened and why (relate back to environmental characteristics)?
- Who are the suppliers of the services?
- What land use changes are needed to enhance the services?
- Which changes are feasible (costs, biophysical, social, tenure) for which kind of supplier?
- Which services can provide new economic opportunities?
  - o **Which are the best options from the supply side?**

**B. Demand assessment for the services identified in A.**

- Who is depending on the specific services? Are the users directly or indirectly dependant?
- Are the substitutes for the services? And what the cost of substitution?
- How to assess the willingness of buyers to pay for the service?
- how to engage with the prospective buyers
  - o **Which are the best options from the demand side?**

**C. ES markets with greatest potential on both sides?**

To facilitate the working groups a number of presentations provided input into the group work.

4.1 Identifying market opportunities for landscape ecosystem services- A Field Practitioner's Toolkit

*Thomas Oberthur, Ecoagriculture Partners*

This presentation provided an overview of possible steps to follow in order to identify new environmental services market opportunities to assess their possible demand, and to identify opportunities for new ES business. Steps included:

- understanding the landscape supply potential
  - o evaluating landscape performance through a scoring system comparing the different ES possible (noting also the different temporal dimensions)
  - o constructing a future landscape: actual and potential services
- assessing the marketable value of the different services, to their prospective buyers

To facilitate the matching of these two dimensions, a matrix was used to compare the different combinations of provisioning services (or products) and regulating and supporting services on one hand, and, on the other hand, the different issues to look into when considering the marketing potential of the selected options.

From this exercise a few "new ES markets" should emerge, where the increase in regulating and supporting ES provision (such as biodiversity conservation, watershed management and carbon sequestration) is matched by interest and willingness to pay from the demand side, with relatively low development costs.

The matrices used, and the background information provided to each group about their hypothetical case-study, with different possible combinations of new environmental service markets are presented in the PESAL website, under Materials/Workshop Tanzania/Working group materials.

4.2 Environmental Services Assessment in Practice – the Kenya experience

*Mohammed Said, International Livestock Research Institute (ILRI), Kenya*

As a practical example of the initial stages of this process- mapping ES and their users- this presentation made an overview of the work done in Kenya, building on the Millennium Ecosystem

Assessment thinking, by the World Resources Institute, the Nairobi-based International Livestock Research institute and partners<sup>3</sup>.

The assessment showed the relation between ecosystem services' provision and human well-being, particularly highlighting the dependence of poorer groups upon these services (water availability, food production potential) and the impacts that changes in ES can have in their livelihoods. One of the aims of this assessment was to make this information available to policy makers to enhance their national poverty reduction and natural resource management policies.

#### 4.3 Building a "Business Case" for Payments for Watershed Services in the Ruvu Catchment, Tanzania

*Mark Ellis-Jones, CARE Tanzania / CARE Kenya*

This presentation described the steps to be followed for engaging the beneficiaries of specific ES, inform them about their value and turn their eventual willingness to pay into regular contributions that can fund investment in improved management and protection of the ecosystems on which their continued supply depends.

Specifically, the work described a set of arguments to engage with the potential buyers of improved water quality in the Ruvu River (Tanzania), demonstrating the value of the environmental benefits of their possible investment (see also section 2.5 above). In this case, a reduction in water treatment costs and insurance against a potential future need to arrange alternative water supply.

In addition to preparing this "business case", the team also assessed the legal environment to understand how feasible a PES scheme would be (in terms of transfer of funds between different levels of administration, and public-private partnerships) and conducted a livelihoods analysis to see how the scheme would eventually affect the providers. The process and lessons learned for engaging buyers (box 12) are summarized in the paper "Equitable Payments for Watershed Services- Feasibility Study Methodology for "A business case approach"<sup>4</sup>

#### **Box 12: Tips to engage with buyers, stemming from CARE Tanzania's experience in PES development for the Ruvu River**

- keep it simple- the more likely it is to work because transactions costs are lower
- potential buyers may understand the interest in investing, but to get them to really pay is harder
- focus on specific individuals within the company- get allies that are already in to it
- the company targeted must have enough money to put at risk
- re-calculate cost if needed- go back to the business with a new proposal, more in line with their expectations, they are open to well crafted negotiations
- voluntary one to one agreements need not be very regulated in legal terms
- water quality is a public good and free riding is a problem
- greatest risk is if the changes in land use do not return the expected benefits- but if the initial cash outlay is low, and buyers are advised of the risk, will be easier to accept it

### **5. Establishing an enabling environment for pro-poor PES development (day 3)**

This work group session aimed to build on the work of the previous day - when a few examples of possible PES development scenarios were identified - and focused on the enabling environment for their implementation, with a particular focus on institutions and legislation that can help designing and implementing pro-poor PES schemes.

<sup>3</sup> World Resources Institute; Department of Resource Surveys and Remote Sensing, Ministry of Environment and Natural Resources, Kenya; Central Bureau of Statistics, Ministry of Planning and National Development, Kenya; and International Livestock Research Institute. 2007. *Nature's Benefits in Kenya, An Atlas of Ecosystems and Human Well-Being*. Washington, DC and Nairobi: World Resources Institute. Available for download at <http://www.wri.org/publication/natures-benefits-in-kenya#>

<sup>4</sup> Document available in though the PESAL website, under Materials/Workshop Tanzania

Divided in groups by country (Tanzania, Kenya, Uganda and Kagera region), the participants shared their views on what institutions and legislations are already present or missing in relevant areas of Natural Resources Management in their respective countries, on which an eventual PES scheme could draw and build on (Box 13). Since the participants of this workshop were from different backgrounds, they all had a contribution to make regarding their sphere of influence and specific knowledge.

**Box 13: guidelines for the work group discussion (day 3)**

- What are the institutions in the area on which we can draw?
  - supply side: farmers groups, NGOs, community organizations
  - demand side: NGOs, business councils, communities/cities, donors/ODI
  - brokers & facilitators: NGOs, government organizations, research institutions
- What institutions are missing?
- What are existing laws, incl. tenure that enable PES?
- What are legal, regulatory barriers?
- What kinds of coordination mechanisms needed?
- In which sectors does awareness be enhanced?
- Is there research support? What is needed additionally?
- How can monitoring arrangements be set up?
- How to minimize risk on the supplier and the buyer side?

Cross cutting issues:

- How to ensure transparency and accountability?
- How take into account risk and uncertainty of transaction?
- How to ensure longevity of the PES scheme?
- How to ensure efficiency of the PES scheme?
- How to make PES schemes equitable and pro-poor, if possible?

Background information and expert advice to guide the group discussions was provided to the participants, by means of the following presentations.

5.1 Supporting the conservation of biological diversity and alleviating poverty: Experiences from Trees for Global Benefits Programme (Plan Vivo Uganda)

*Pauline Nantongo Kalunda, Environmental Conservation Trust (ECOTRUST) of Uganda*

The NGO leading this carbon project, ECOTRUST works with farmers' groups to generate and pool together carbon sequestration and storage (from avoided deforestation) credits for sale in the voluntary carbon market, following the Plan Vivo model<sup>5</sup>. Farmers may engage in agroforestry, reafforestation, or restoration of degraded forests with mixed native trees, as well as forest conservation.

In addition to the carbon sequestration payments received directly from ECOTRUST, farmers also gain from the development of small scale agro-forestry enterprises (timber, poles, fuel wood, fodder, fruit and honey production).

5.2 Pro-poor PES Design: Potentials and obstacles for the poor to benefit as suppliers of environmental services

*Thomas Yatich/Vanessa Meadu (ICRAF Kenya)*

The presentation showed that the extent to which PES schemes may contribute to poverty reduction depends on (i) the security of their ownership or use rights to the land they manage, (ii) whether these communities would be capable of managing such a land to provide desired environmental service (iii) if there are mechanisms in place to measure and verify the provision of ecosystem services-contingency,

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<sup>5</sup> for details see: <http://www.planvivo.org/fx.planvivo/scheme/uganda.aspx>

(iv) and the transaction costs associated with aggregating PES for many small-scale resource stewards can be effectively managed.

In any case, when implementing a PES scheme, a first concern should always be (i) not to further harm the poor, (ii) make sure they are included, (iii) and if possible positively bias the scheme's rules to prioritize their participation, which is particularly possible in cases where the buyers are interested in social co-benefits of their investment in the environmental services scheme.

Several options are possible, depending on the circumstances (Box 14).

**Box 14: Pathways for poverty reduction through RUPES mechanisms**

- Stop negative 'drivers' that enhance poverty and degrade environmental services ('RUPES')
- Enhance local environmental services and resources (e.g. regular supply of clean water, access to beneficial plant and animal resources)
- Enhanced security of tenure, reduced fear of eviction or 'take-over' by outsiders, allowing investment in land resources; increased asset value
- Enhanced trust with (local) government, increased 'say' in development decisions
- Increased access to public services (health, education, accessibility, security)
- Payment for labour invested at a rate at least equal to opportunity cost of labour
- Increased access to investment funds (micro credit or otherwise) for potentially profitable activities
- Entrepreneurism in selling 'commoditized' environmental services

**5.3 Enabling Environment: Institutional barriers to PES development and enabling legislation in East and Southern Africa**

*Alice Ruhweza, The Katoomba Group*

In investigating whether the laws, practices and institutions can support, or at least not obstruct, the development of PES schemes in East Africa, it has been found that although the general policy is not obstructive, there are no specific provisions for PES development and the government authorities are not yet familiar with the mechanism and its potential. At the same time, the private sector is becoming more aware of the opportunity posed by PES, both in terms of environmental outcomes, and as an investment in social responsibility. There are support services being provided by NGOs and consultants, which can represent considerable costs.

**6. Main discussion results**

The results of the discussions showed that PES schemes may represent an incentive to the adoption of sustainable land management practices in East Africa. Nevertheless, it is necessary to improve the institutional capacity and adjust the legislative framework to charge for, and invest in the management of regulating ecosystem services. The need for stronger collaboration between policy makers and natural resource managers, especially from the agricultural sector, was also considered key for the further development of PES schemes in the region.

A few topics have been examined and discussed more thoroughly, as specified in what follows.

**6.1 Sustainability of PES schemes**

Donor funds will normally only be present for the feasibility and start up phases. Therefore, securing contributions from the users of the environmental services generated is the breaking point when considering the sustainability of a PES scheme: there is the need for reliable trustworthy buyers. Implementation relies on private and public buyers. If the scheme is successful in generating the expected environmental benefits, the users want to continue paying in the long run. There is the need for fair and reasonable taxation: optimal taxation to create the correct incentives for efficient resource use and responsible environmental performance should be an option, perhaps targeting first the larger users/polluters.

## ***6.2 Combining enforcement and accountability of investment with equity goals***

One challenge for PES programs is to understand how to ensure that buyers receive the service they are paying for and how to match pro-poor goals with private sector focus on getting value for money. This is especially a problem in cases where the payments are not conditional and periodical such as in pro-poor schemes where payments are made in kind and one-off (e.g. the provision of road access or improvements in education or health services) (see box 15).

It is crucial to see how to ensure that providers are accountable. For example, in the case of CARE's work in Kibungo, the village council owns the land and can therefore enforce the obligations the farmer has taken on.

## ***6.3 The role of institutions***

Public authorities play a crucial role in acknowledging the value of environmental services (e.g. the Tanzanian Forest and Beekeeping division are working to inform the government of the total value of the country's forest resources to inform their policy decisions) and in facilitating collection of payments and its effective investment, either through the competent authorities already collecting this kind of fees and/or by supporting the work of newly created independent schemes with the same aim. Although a wide range of institutions on which to build on for PES development already exists, there is the need to improve networking and communication between the various government bodies and meeting such as this workshop can play an important role.

## ***6.4 Work group session 1: assessing supply and engaging demand***

From the group discussions (two on two fictional scenarios - one in the catchment of a small lake, another in the upper catchment of a river, and one last one focusing on the actual conditions in the Kagera river basin) emerged that when assessing supply it is very difficult to balance provisioning services (ie. production) and regulating/supporting environmental services. Land management practices will have to be adjusted if the land is managed across a variety of services, but sustainable practices existed for this and can be adjusted.

On the demand side, the discussion showed that one of the greatest problems in engaging buyers is the risk that the land use changes and adoption rates do not yield the expected result in a suitable timeframe. This may be an obstacle for the investor. It was also clear that the proposed exercise is only really possible with more detailed information on the landscape management options and interests of the buyers are available.

## ***6.5 Work group session 2: enabling environment.***

The working groups identified the institutions potentially involved in PES programmes in each country, together with the existing laws that have to do with natural resource management and environmental services from agricultural landscapes. Missing institutions as well as legal and regulation barriers were also identified, together with what is needed in terms of coordination mechanisms, PES awareness (among suppliers, buyers and local authorities) and applied research (baseline data, economic valuation of resources and potential returns through PES incentives, hydrological studies, and technological innovations).

All groups agreed that there is the need to minimize risks to suppliers and buyers (e.g. by building capacity in negotiation skills, increasing knowledge of which ES is sold or bought, establishing an independent arbitrator and a buyer or seller forum, auditing, etc.) and to have a reliable monitoring system (employ local communities to conduct monitoring, need for independent 3rd party monitoring, etc.).

Some cross cutting issues were also discussed: transparency and accountability (publication of results and process, clearly defined rules and procedures), efficiency (strong institutional foundations, minimize transaction costs, use of secure delivery/reward systems), equity (pro-poor design of PES programs).

## 7. Workshop evaluation feedback

### general expectations included

- learning about PES best practices
- active institutions in the field
- networking and knowledge sharing, which were met by all participants

### most effective part of the workshop

- the overview provided by presentations and especially the working group discussions
- good basis info on ecosystems and NR management practices
- overview of areas where PES mechanisms can apply

### suggestions for improvement

- sessions could have been shorter and with fewer presentations
- provide participants with well established case-studies to illustrate the practicalities
- guidelines for group work could have been more precise
- a field trip to a PES site for all participants

### expectations for use of information/skills/contacts made at the workshop

- information useful for further work back home
- useful background to support the institutionalization of PES in the region
- networking will allow for future collaboration.

## Ongoing & upcoming work relevant to the region<sup>6</sup>

- Globally Important Agricultural Heritage Systems (FAO-GEF-UNDP project)- the case of Maasai Pastoral Rangeland Management (Kenya and Northern Tanzania)  
<http://www.fao.org/sd/giahs/next.asp> - contact Sally Bunning, FAO
- Katoomba regional meeting upcoming in September, in Dar es Salaam to present the ES market assessment results- contact Alice Ruhweza, Katoomba group
- GEF-UNDP Project on institutionalizing PES will also be providing materials and learning network with two trial sites two in Africa and two in tropical American. The Ecoagriculture Partners Market Assessment materials are embedded in this project- contact Thomas Oberthur, Ecoagriculture Partners
- WWF-CARE-IIED Equitable Payments for Watershed Services project, now entering phase 2. In Tanzania this includes full operation in Morogoro and upscaling to the Usambara mountains- contact Dosteus Lopa, CARE Tanzania
- FAO PES in Agriculture Landscapes- PESAL website

Combined with the work on the [State of Food and Agriculture report 2007- Paying Farmer for Environmental Services](#), the Agriculture Development Economics Division of FAO has now launched a website providing an overview of the rationale and potential of PES to improve incentives for sustainable land management, and offering a synopsis of the process for the design and implementation of such schemes, always with a focus on the role of agriculture and with pro-poor options inbuilt in each section.

This website is also part of the work done under the Payments for Environmental Services from Agricultural Landscapes- PESAL project, which included a set of environmental services demand assessments (available though the website as PESAL Papers, under Materials).

The website can be found directly at <http://www.fao.org/es/esa/PESAL>  
Contact Leslie Lipper, FAO

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<sup>6</sup> please refer to the participants list in annex for contact details

## **Annex 1: List of participants**

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## Annex 2: Workshop programme

### Day 1: Monday 4 February 2008

#### PES from sustainable land management- rationale and overview of regional initiatives

Paying farmers for Environmental Services as one way to provide incentives for Sustainable Land Management	Leslie Lipper, FAO
Sustainable Land Management in Sub-Saharan Africa and the Terrafrica initiative	Sally Bunning, FAO
Agroecosystems of Kagera River Basin in Tanzania: Niches for PES to Enhance Sustainable Land Management	Freddy Bajjukia, Tanzania Agricultural Research Institute
Overview of PES Initiatives in East and Southern Africa	Alice Ruhweza, The Katoomba Group
Overview of PES Programs Being Implemented in Tanzania. Opportunities and Barriers	Dosteus Lopa, CARE Tanzania

#### Ongoing PES projects in East and Southern Africa

Opening Remarks: Watershed protection and river basin integrated management: an opportunity for implementing PES projects in Eastern Africa	Evarist Nashanda, Ministry of Forestry of Tanzania
Pro-Poor Rewards for Environmental Services in Africa (PRESA)	Thomas Yatich, World Agroforestry Center-ICRAF Kenya
The Opportunities and Challenges of Implementing PES in the Water Sector: A Kenyan Buyer's Perspective	Philip Msafiri, Nairobi City Water and Sewerage Company-NCWSC
Potentials for PES in the Carbon Markets in East Africa: Experiences in Carbon Offset Projects in Uganda	Byamukama Biryahwaho, Nature Harness Initiatives-NAHI
The Nairobi Framework and Potential Carbon Market for East Africa	Todd Ngara, UNEP Risø Center
Reducing Emissions from Deforestation and Degradation (REDD): Policy Scenarios and Carbon Markets	Jenny Farmer, Uganda Carbon Bureau
PES Potential for Biodiversity conservation in East Africa	Enock W. Kanyanya, Nature Kenya, Nairobi
The Biorights Approach: Resource Conservation and Sustainable Management	James Musunguzi, Uganda Wildlife Education Center

### Day 2: Tuesday 5 February 2008

#### Assessing PES feasibility: theoretical issues and working groups

Getting started: explaining the overall exercise and activities of Working Groups.	Monika Zurek, FAO
Demonstrate the use of "market assessment" procedure for PES feasibility	Thomas Oberthur, Ecoagriculture Partners
Environmental Services Assessment in Practice- the Kenya experience	Mohammed Said, ILRI
The "business case": a tool to make a case for PES to present to buyers	Lopa Dosteus and Mark Ellis, CARE Tanzania

### Day 3: Wednesday 6 February 2008

#### Institutional and poverty issues

Supporting the conservation of biological diversity and alleviating poverty: Experiences from Trees for Global Benefits Programme (Plan Vivo Uganda).	Pauline Nantongo Kalunda, Environmental Conservation Trust (ECOTRUST) of Uganda
Pro-poor PES Design: Potentials and obstacles for the poor to benefit as suppliers of environmental services	Thomas Yatich/Vanessa Meadu (ICRAF Kenya)
Enabling Environment: Institutional barriers to PES development and enabling legislation in East and Southern Africa	Alice Ruhweza, The Katoomba Group
Orientation for Working group work- PES enabling institutions	Bernardete Neves, FAO
Presentation of FAO's PES website- PESAL	Giacomo Branca, FAO
Globally Important Agricultural Heritage Systems (FAO-GEF-UNDP project)- the case of Maasai Pastoral Rangeland Management (Kenya and Northern Tanzania) <a href="http://www.fao.org/sd/giahs/">http://www.fao.org/sd/giahs/</a>	Sally Bunning, FAO